Amendments to the Specification:

Please replace the title on page 1, at lines 1 and 2, with the following title:

A FERTILIZER AND LONG TERM SOIL CONDITIONER CONTAINING A LAYERED DOUBLE HYDROXIDE (LDH)

Please replace the paragraph on page 1 lines 22 to 26, with the following rewritten paragraph:

Supplying nitrogen to plants in the proper amount at the appropriate times is not an easy task. Nitrogen can be supplied in the form of ammonium ions (NH_4^+) or nitrate ions (NO_3^-). Microorganisms in the soil which might be used to convert ammonia to nitrate, and control of the conversion can be difficult. Furthermore, there is a complex equilibrium between various forms of bound nitrogen that is difficult to control.

Please replace the paragraphs on pages 3 and 4 of the application, beginning at line 28 on page 3 and ending on line 9 on page 4 with the following rewritten paragraph:

The process involves a co-precipitation from a substantially carbonate free aqueous alkaline solution of at least one metal salt (the metal being divalent and being selected from Ca, Mg, Fe, Ni, Zn, Co, Cu, Mn, or Li, and the anion being a nitrate, sulfate, chloride or hydroxide) and a second metal salt (the metal being trivalent and being selected from Al, Fe, Cr, and Mn, and the anion being nitrate, sulfate, chloride or hydroxide). The co-precipitation reaction is controlled over time. The precipitated product is separated from solution and heat treated (preferably by a thermal treatment in excess of 250°C or 350°.

Please replace the paragraph on page 5, at lines 20-24, with the following rewritten paragraph:

The fertilizers and soil improvers preferably include essentially carbonate-free laminar double hydroxides (LDHs), which have exchangeable anions bound in the intermediate layers. The LDHs can be represented by the following formulas:

Please delete the paragraph on page 6, at lines 18-21.

Please amend the paragraph on page 7, beginning at line 3, as follows:

In the following culture period, the nitrate is slowly released by ion exchange. As the nitrate anions, like any anions, have a certain affinity with the mineral to be used according to the invention because of the excess of positive charge in the mineral lattice, there is no simple wash out of the nitrate. Instead, the nitrate concentration is in an equilibrium between "mineral-bound", and "in solution" (in the natural soil water) so that the nitrate concentration is considerably lower than in soils fertilized in the usual manner, but is still enough to meet the requirements of the plants.

Please amend the paragraph on page 7, beginning at line 19, as follows:

Thus, the mineral acts as a soil improver by buffering the nitrate content. That is, nitrate is taken up when it is in greater abundance and is released when there is a nitrate deficiency ~~it takes up nitrate in times of greater NO_3^- availability and releases it when there is a nitrate deficiency~~. In this way, the nitrate concentration in the ground solution is maintained at a low level when the plants need little or no nitrate (~~that is~~ this being important especially in fallow times, as in the Fall and Winter). ~~Then the mineral makes the bound nitrate available again for the next crop. Therefore the minerals according to the invention are nitrate ion exchangers, and nitrate buffers under soil conditions.~~

On page 11, between lines 2 and 3, insert the following heading:

BRIEF DESCRIPTION OF THE DRAWINGS

On page 11, at line 18, insert the following heading:

DETAILED DESCRIPTION OF THE INVENTION

Please amend the paragraph on page 11, beginning at line 19, as follows:

Figure 1 shows the structure of an LDH, with $Mg_6Fe_2(OH)_{16}(NO_3)_2$ being shown for exemplary purposes. As will be understood from the description above ~~as the example. As described above,~~ there are ~~also~~ other natural and synthetic laminar minerals which may be used in the practice of this invention. ~~with other cations, mostly bivalent and trivalent, and with other counterions.~~ The laminar structure allows relatively free ~~problem-free~~ exchange with other anions such as nitrate, sulfate, chloride or hydroxide. In the LDH of this invention ~~Nevertheless~~, there is binding[[,]] which is strong enough that these ions cannot easily leave the lattice. Thus, instead of a simple "flushing out", there is deliberate release of the anions, especially the nitrate ions that ~~. It~~ is driven, among other things, by the shift in equilibrium due to consumption.

Please amend the paragraph on page 12, beginning at line 20, as follows:

Figure 5 show the exchange behavior of a Mg-Fe (III)-NO_3^- LDH in various solutions. As can be seen, the exchange of nitrate with sulfate proceeds ~~goes very~~ much slower than with chloride. This ~~That~~ makes it possible to apply the LDHs as fertilizers together with simultaneous application of other fertilizers containing sulfate, which could otherwise cause overly rapid nitrate release. Figure 5 ~~The figure~~ also shows that the LDH can be recharged ~~well~~ with NO_3^-.

Please amend the paragraph on page 13, at lines 17-22, as follows:

The precipitation reaction should take place over a long period. That is, less than 12 ml/hour, for example, 4 ml/hr, of the solution specified ~~in (1)~~ above for coprecipitation should be added slowly to the container with a peristaltic pump. The solutions used during coprecipitation should be handled in the absence

of CO_2 and should be essentially free of carbonate.